

ilia grey, with dark interline. Underside whitish; a black spot at the end of each cell: fore wings and costal space of hind wings suffused with grey; square apical black patches on both wings, with an attenuated continuous border on hind wings.

Expanse of wings $1\frac{3}{10}$ inch.

Roebourne, W. Australia (*Clement*).

Allied to *T. vinctale*, Walker, from India, with which it is mixed up in the B. M.; but although I have examined many specimens, I have not seen one from India with the row of submarginal spear-shaped black marks on the fore wings which this form from Australia always has.

Family Focillidæ.

Rhesala mediofascia, nov.

♂. Pale ochreous fawn-colour: fore wings with a black dot in the middle of the cell and three black dots in angular form at the end; a black sinuous antemedial line running over the first dot; both wings irrorated with minute brown atoms; a black straight band, slightly suffused on its inner side, from the middle of the abdominal margin of hind wings to near apex of fore wings, where it suddenly curves round inwardly and terminates; on the inside of the band at the end of the cell of hind wings is a blackish sinuous short line; some of the irrorations collected together form an indistinct brownish thin band, submarginal on fore wings and discal on hind wings; marginal points black, but very minute. Underside slightly darker than the upperside; a black spot in middle of cell of fore wings and end of cell on hind wings; a crenellated black discal line on both wings, straight on fore wings, outwardly curved on hind wings.

Expanse of wings 1 inch.

Sarawak, Borneo.

There is an example from Borneo in the B. M. unnamed in Titid drawer no. 210.

LXVI.—*Further Notes on the Pangooninæ of the Family Tabanidæ in the British Museum Collection.* By Miss GERTRUDE RICARDO.

[Concluded from p. 381.]

Palaearctic Region.

The following list comprises all the described species of this region. Schiner published a list of the European

species in his Catalogue of 1864. A supplementary synoptical table follows, including those species not in Loew's table (Verh. zool.-bot. Gesell. Wien, viii. p. 615, 1858).

- **C. cæcutiens*, ♂ ♀, Linn., Fauna Suec. p. 464 (1761); id. Syst. Nat. v. p. 1001 (1766); Scop., Entom. Carniol. p. 373 (1763); Degeer, Ins. vi. p. 224, pl. xiii. fig. 3 (1778); Fabr., Spec. Ins. ii. p. 459 (1781); id. Ent. Syst. iv. p. 372 (1794) (*Tabanus*); Fabr., Syst. Antl. p. 110 (1805); Latr., Gen. Crust. iv. p. 285 (1809); Meig., Syst. Besch. ii. p. 67 (1820); Fallén, Dipt. Suec. p. 9 (1817); Dahlb., Ins. Scand. och Nyttå, p. 307 (1837); Zett., Ins. Lapp. p. 518 (1840); Walker, List Dipt. v. p. 277 (1854); Zeller, Isis, 1840, p. 518; id. ibid. 1842, p. 823, pl. iv. figs. 33, 34; Loew, Verh. zool.-bot. Gesell. Wien, viii. p. 628 (1858); Schiner, Fauna Austr. i. p. 42 (1860); Jænnicke, Berlin. ent. Zeit. x. p. 90 (1866); Gobert, Mém. Soc. Linn. du Nord, v. p. 102 (1883); Pandellé, Rev. Ent. ii. p. 165 (1883). [*Tabanus lugubris*, Linn., Fauna Suec. p. 464 (1761). *Tabanus maritimus*, Scop., Entom. Carniol. p. 374 (1763). *Chrysops viduatus*, Fabr., Ent. Syst. iv. p. 374 (1794) (*Tabanus*); id. Syst. Antl. p. 113 (1805).]—Europe, Siberia.
- C. fenestratus*, ♀, Fabr., Ent. Syst. iv. p. 373 (1794) (*Tabanus*); id. Syst. Antl. p. 111 (1805); Latreille, Gen. Crust. iv. p. 285 (1809); Meig., Syst. Besch. ii. p. 71 (1820); Walker, List Dipt. pt. i. p. 194 (1848), pt. v. Suppl. 1, p. 279 (1854); Lucas, Explor. d'Algérie, Zool. iii. p. 427 (1849); Loew, Verh. zool.-bot. Gesell. Wien, viii. p. 632 (1858).—S. Europe, N. Africa.
- **C. sepulchralis*, ♂ ♀, Fabr., Ent. Syst. iv. p. 374 (1794); Zett., Dipt. Scand. i. p. 126 (1838); Walker, List Dipt. pt. i. p. 202 (1848); id. ib. pt. v. Suppl. 1, p. 279 (1854); Loew, Isis, 1840, p. 519; id. Verh. zool.-bot. Gesell. Wien, viii. p. 622 (1858); Schiner, Fauna Austr. i. p. 41 (1862); Ost. Sack., Mem. Boston Soc. Nat. Hist. ii. p. 395 (note) (1876); id. Cat. Dipt. N. Amer. (1878) p. 54 (observ.); Pandellé, Rev. Ent. ii. p. 225 (1883); Austen, Ent. Month. Mag. (2) viii. p. 224 (1897); Ricardo, Ann. & Mag. Nat. Hist. (7) viii. p. 306 (1901).—C. & N. Europe.
- **C. italicus*, ♂ ♀, Meig., Syst. Besch. ii. p. 67, pl. xiv. fig. 7 (1820); Walker, List Dipt. pt. v. Suppl. 1, p. 280 (1854); Loew, Verh. zool.-bot. Gesell. Wien, viii. p. 630 (1858); Jænnicke, Berlin. ent. Zeit. x. p. 89 (1866); Gobert, Mém. Soc. Linn. du Nord, v. p. 101 (1883). [? *Tabanus salinarius*, Scop., Entom. Carniol. p. 373 (1763). *Chrysops nigriventris*, ♂, Loew, Neue Beitr. iv. p. 26 (1856). *C. marmoratus*, Gobert, Mém. Soc. Linn. du Nord, v. p. 101 (1883). *Chrysops fenestratus*, Wiedem. (nec Fabr.), Meig., Syst. Besch. ii. p. 71 (1820); Loew, Verh. zool.-bot. Gesell. Wien, viii. p. 631; Gobert, l. c. p. 100. *Tabanus flavipes*, Meig., Klass. i. p. 159, pl. ix. fig. 13 (1804).]—S. Europe.
- **C. relictus*, ♂ ♀, Meig., Syst. Besch. ii. p. 69 (1820); Zett., Ins. Lapp. p. 518 (1840); Loew, Isis, 1840, p. 518; id. ib. 1842, p. 825, pl. iv. fig. 32; Walker, List Dipt. pt. v. Suppl. 1, p. 277 (1848); Loew, Verh. zool.-bot. Gesell. Wien, viii. p. 627 (1858); Schiner, Fauna Austr. i. p. 42 (1862); Gobert, Mém. Soc. Linn. du Nord, v. p. 103 (1883); Pandellé, Rev. Ent. ii. p. 225 (1883). [*Tabanus cæcutiens*, Panz., Fauna Germ. xiii. p. 24 (1794). *C. viduatus*, Fall., Dipt. Suec. p. 10 (1817).]—C. & N. Europe.
- **C. quadratus*, ♂, Meig., Syst. Besch. ii. p. 70 (1820); ♀, Loew, Isis, 1840, p. 519; Zett., Dipt. Scand. i. p. 125 (1842); Walker, List

- Dipt. pt. v. Suppl. 1, p. 278 (1854); Loew, Verh. zool.-bot. Gesell. Wien, viii. p. 626 (1858); Schiner, Fauna Austr. i. p. 41 (1862); Gobert, Mém. Soc. Linn. du Nord, v. p. 102 (1883); Pandellé, Rev. Ent. ii. p. 224 (1883). [*C. pictus*, ♀, Meig., Klass. i. p. 158 (1804); Loew, Isis, 1840, p. 519; id. ib. 1842, p. 823, pl. iv. figs. 28, 29; Walker, List Dipt. pt. v. Suppl. 1, p. 278 (1854). *C. viduatus*, Meig., Klass. i. p. 158 (1804).]—Siberia, C. & S. Europe.
- **C. rufipes*, ♂ ♀, Meig., Syst. Besch. ii. p. 71 (1820); Loew, Isis, 1840, p. 519; id. ib. 1842, p. 823, pl. iv. fig. 32; Walker, List Dipt. pt. v. Suppl. 1, p. 279 (1854); Loew, Verh. zool.-bot. Gesell. Wien, viii. p. 625 (1858); Schiner, Fauna Austr. i. p. 41 (1860); Jännicke, Berlin. ent. Zeit. x. p. 89 (1866); Gobert, Mém. Soc. Linn. du Nord, v. p. 101 (1883).—C., N., & S. Europe.
- C. marmoratus*, ♀, Meig. (nec Rossi), Syst. Besch. ii. p. 73 (1820); Loew, Verh. zool.-bot. Gesell. Wien, viii. pp. 631, 632 (1858); Schiner, Dipt. Austr. i. p. 40 (1860); Rond. Archiv. Canestr. iii. p. 82 (1864). [? *C. perspicillaris*, Loew, l. c. p. 630; Gobert, Rev. Monogr., Mém. Soc. Linn. du Nord, v. p. 101 (1883).]—Europe.
- **C. vitripennis*, ♂ ♀, Meig., Syst. Besch. ii. p. 74 (1820); Walker, List Dipt. pt. v. Suppl. 1, p. 281 (1854); Rondani, Prodr. Dipt. Ital. i. p. 171 (1856); Loew, Verh. zool.-bot. Gesell. Wien, viii. p. 616 (1858); Schiner, Dipt. Austr. i. p. 39 (1860); Griff., Boll. Mus. Zool. Anat. Comp. Torino, x. no. 218, p. 7 (1895). [*C. Ranzonii*, ♂, Schiner, Verh. zool.-bot. Gesell. Wien, Dipt. Fragm. p. 34 (1858). *Hæmophila Fallottii*, Kriech, Verh. zool.-bot. Gesell. Wien, xviii. p. 70 (1873).]—Styria, Italy.
- C. singularis*, ♀, Meig., Syst. Besch. vii. p. 60 (1820); Walker, Cat. Dipt. pt. v. Suppl. 1, p. 280 (1854); Rondani, Prodr. Dipt. Ital. i. p. 171 (1856) (*Nemorius*); Loew, Verh. zool.-bot. Gesell. Wien, viii. p. 617 (1858).—Spain.
- **C. japonicus*, ♂ ♀, Wiedem., Auss. zweifl. Ins. i. p. 203 (1830); Walker, List Dipt. pt. v. Suppl. 1, p. 291 (1854); Loew, Verh. zool.-bot. Gesell. Wien, viii. p. 621 (1858); Ost. Sack., Wien. ent. Zeit. iii. p. 316 (1884). [*C. aterrimus*, ♀, Kirby, Ann. & Mag. Nat. Hist. (5) xiii. p. 457 (1884).]—Japan.
- C. pallidus*, ♀, Macq., Dipt. Exot. i. p. 162 (1838); Walker, List Dipt. pt. v. Suppl. 1, p. 280 (1854).—Locality unknown (? France).
- C. nigripes*, ♀, Zett., Ins. Lapp. p. 519 (1840); id. Dipt. Scand. i. p. 125 (1842), viii. p. 2944 (1848); Walker, List Dipt. pt. v. Suppl. 1, p. 278 (1854); Loew, Verh. zool.-bot. Gesell. Wien, viii. p. 623 (1858); Ost. Sack., Mem. Boston Soc. Nat. Hist. ii. p. 394, note (1876); id. Cat. Dipt. N. America (1878).—Lapland, Sitka, N. America.
- C. parallelogrammus*, ♀, Zeller, Isis, 1842, p. 823, pl. iv. fig. 31; Walker, List Dipt. pt. v. Suppl. 1, p. 278 (1854); ♂, Loew, Verh. zool.-bot. Gesell. Wien, viii. p. 621 (1858); Mik, Hor. Soc. Ent. Ross. xxiii. p. 111 (1889). [*C. bipunctatus*, Motsch., Bull. Soc. Imp. Nat. Moscou, xxxii. 1859, p. 505.]—Europe, Amur.
- C. melanopleurus*, ♂ ♀, Wahlberg, Öfv. k. Vet.-Akad. Förh. Stockholm, 1848, p. 200; Zett., Dipt. Scand. viii. p. 2943 (1848); Loew, Verh. zool.-bot. Gesell. Wien, viii. p. 627 (1858). [*C. morio*, Zett., l. c.]—Lapland.
- C. punctifer*, ♂ ♀, Loew, Neue Beitr. iv. p. 24 (1856); id., ♀, Verh. zool.-bot. Gesell. Wien, viii. p. 633 (1858).—Syria.
- **C. perspicillaris*, ♂, Loew, Neue Beitr. iv. p. 25 (1856); id., ♀, zool.-bot. Gesell. Wien, viii. p. 633 (1858); Schiner, Fauna Austr. i. p. 41 (1862); Gobert, Mém. Soc. Linn. du Nord, v. p. 100

- (1883); Griff., Boll. Mus. Torino, x. no. 218, p. 6 (1895). [? *C. fenestratus*, Wiedem. (nec Fabr.), Meig., Syst. Besch. ii. p. 71 (1820); Loew, Verh. zool.-bot. Gesell. Wien, viii. p. 631 (1858); Gobert, t. c. p. 100.]—N. Italy, Hungary.
- **C. suavis*, ♂ ♀, Loew, Wien. ent. Monat. ii. p. 103 (1858); id. Verh. zool.-bot. Gesell. Wien, viii. p. 620 (1858).—Siberia, Japan.
- C. humatus*, ♂ ♀, Loew, Verh. zool.-bot. Gesell. Wien, viii. p. 617 (1858).—Asia Minor.
- C. dissectus*, ♀, Loew, l. c. p. 618.—Siberia.
- C. validus*, ♀, Loew, l. c. p. 619.—Siberia.
- C. concavus*, ♀, Loew, l. c. p. 622.—Russia.
- C. lapponicus*, ♀, Loew, l. c. p. 624.—Lapland.
- C. divaricatus*, ♀, Loew, l. c. p. 624.—Siberia.
- C. ludens*, ♂, Loew, l. c. p. 628.—Asia Minor.
- C. concrus*, ♀, Loew, l. c. p. 629.—France, Italy.
- C. maura*, ♂, Siebke, Nyt Magaz. f. Naturvid. Christiania, xii. p. 103 (1863).—Norway.
- C. uorus*, ♂, Schiner, Reise Novara, p. 103 (1866).—Gibraltar.
- C. aurantiacus*, ♀, Jænnicke, Berlin. ent. Zeit. x. p. 88 (1866).—Andalusia.
- **C. mauritanicus*, ♀, Costa, Rend. Accad. Napoli, (2) vii. p. 101; id. Atti Accad. Napoli, (2) v. p. 22, pl. iv. fig. 78 (1893).—Tunis, Algeria.
- C. Melicharii*, ♂, Mik, Wien. ent. Zeit. xvii. p. 158 (1898).—Montefalcone, Illyria.

Of these *mauritanicus*, Costa, and *aurantiacus*, Jænnicke, are nearly related to *italicus*, Mg. The former seems a distinct species, judging from the two specimens in the Museum Collection from Algeria; of the latter I have no knowledge.

C. melanopleurus, Wahlb., does not seem to have been recognized by any author. Loew notes that it is unknown to him.

C. japonicus, Wiedem., is a well-established species (see note on it below). *C. novus*, Schiner, is a description of a male from Gibraltar said to be related to *quadratus*, Mg., but distinguished by the continuation of the black spot on the second segment. *C. Melicharii*, Mik, is described as nearly related to *C. rufipes*, Mg., and also to *C. relictus* and *C. quadratus*, Mg., the characteristics which distinguish it from these being given; only the male is known.

C. pallidus, Macq., is not included in the subjoined table, as it is impossible to classify it from the vague description, and the locality is uncertain. It is said to be related to *italicus*, Mg., being a yellow species with black antennæ and reddish legs.

C. maura, ♂, Siebke, a black species, is for the same reason omitted from the table; it is said to be in size like *sepulchralis*, Fabr., but distinguished from it by its wholly black abdomen and black pubescence; this would bring it

near *japonicus*, Wiedem., but its smaller size is against this supposition.

The nomenclature of some of the European species, more especially of *C. italicus*, Mg., is most confusing. As regards the latter I have followed Loew, who gives at some length, in Verh. zool.-bot. Gesell. Wien, viii. p. 630, his views as to the synonymy. Gobert and other authors have not followed him, but still used the old name *Tabanus marmoratus*, Rossi (Fauna Etrusc. ii. p. 312, 1820), which he rejects entirely. *Chrysops fenestratus*, Fabr. (*Tabanus*), he had no knowledge of. He gives a full description of a species he believes to be *italicus*, Meig., and suggests that *C. marmoratus*, Meig., as described by this author, may be the same as a species he describes under the name of *perspicillaris*. Gobert suggests that the latter is only a variety of *C. italicus*, Meig. (his *marmoratus*), and considers the smaller size of the apical spot of the wing, given by Loew as one of the chief characteristics of *perspicillaris*, is an untrustworthy distinction; this conclusion is borne out by a comparison of the specimens in the British Museum Collection, which are chiefly distinguished from *C. italicus*, Meig., by their smaller size and the lighter colour of the abdomen in the females.

- | | | |
|---|----|------------------------------------|
| 1. Wings banded and with apical spot | 2. | |
| 2. Wings with a clear spot in the discal cell. | 3. | |
| Wings with no clear spot in the discal cell. | 6. | |
| 3. Outer border of band of wing with a deep sinus in the middle in the first posterior cell. | 4. | |
| Outer border of band of wing with no such sinus | 5. | |
| 4. Antennæ shorter and stouter than those of <i>italicus</i> , Mg. | | <i>mauritanicus</i> , ♂ ♀, Costa. |
| 5. Sides of segments 3 and 4 orange-yellow; no outer black spots on the sides of the segments | | <i>aurantiacus</i> , ♀, Jænnicke. |
| 6. Sides of thorax mostly black-haired | 7. | |
| Sides of thorax yellow-haired | 8. | |
| 7. Abdomen blackish; the apex of the segments ferruginous, the first two segments yellow at the sides | | <i>melanopleurus</i> , ♂ ♀, Wahlb. |
| Abdomen yellowish; the three last segments wholly yellow | | <i>Melichariü</i> , ♂, Mik. |
| Abdomen wholly black, with black pubescence | | <i>japonicus</i> , ♂ ♀, Wiedem. |
| 8. The black spot on the second segment reaches to the fourth segment | | <i>novus</i> , ♂, Schiner. |

Chrysops cacutiens, ♂ ♀, Linn.

Two females from Hilders, Germany, 87. 110 (*Kirby*);

three from Boppard, Rhine, 97. 128 (*Thomas*); one from Carlsbad, 6. 00; five females, 49. 4. 3 (*Children*), numbered from 1030 to 1034; one male and one female from France; one male from La Foce de Vizzarone, Corsica, 93. 123 (20. 7. 93, *Yerbury*).

Chrysops sepulchralis, ♂ ♀, Fabr.

One female from Germany, 58. 80 (*Butler*); one female labelled "(Saunders Coll.) 68. 4," which is the specimen mentioned by me on p. 306 of the 'Annals' (1901, viii.), as having a card label "Hudson's Bay" below it. Kirby (in *Fauna Bor.-Amer.*, Ins. p. 314, 1836) mentions a specimen of this species as having been caught in lat. 65°; but Osten Saeken says he has not yet met with it in N. America.

Chrysops vitripennis, ♂ ♀, Meig.

One female from unknown locality.

Chrysops italicus, ♂ ♀, Meig.

Four females from Albania; one from Cyprus, 1900. 95 (*Gennadino*), pres. Hart Bennett; one from Albania (*Saunders*), 43. 1; two from Albania (*Doubleday*), 46. 13; one from Albania (*Walker*), 48. 5.

Chrysops rufipes, ♂ ♀, Meig.

One male and one female from Germany, 58. 80 (*Ruthe*); one female unlabelled.

Chrysops relictus, ♂ ♀, Meig.

Three females from Alfheim, Norway (June-July 1897), 98. 2; one from North Cape, Norway (28. 7. 86, *Ridley*), 1900. 207; one from South France; one from unknown locality.

Those from Norway have the antennæ wholly black.

Chrysops quadratus, ♂ ♀, Meig.

Two males and two females from La Foce de Vizzarone, Corsica, 93. 123 (*Yerbury*); one female from Raab, Hungary (26. 11. 98, *Burr*), with a note "caught in the train," 99. 7; one from France; two from Germany (*Ruthe*), 58. 80; one from unknown locality.

Chrysops suavis, ♂ ♀, Loew.

Two males and four females from Yesso, Japan (1882, *Prior*), 1901. 13.

The female only was described by Loew. The male is very similar; the yellow colour on the first abdominal segment is less marked and the black marks on the second segment coalesce, forming a squarish spot, with only a small yellow triangular spot on the hind border. The dark colouring of the wings is more extended, as usual in the males.

Chrysops japonicus, ♂ ♀, Wiedem.

The two female types of *C. aterrimus*, Kirby, from Yokohama, Japan, 77. 11 (*Jonas*), are specimens of the above species, as suggested by Ost. Sack. in *Wien. ent. Zeit.* iii. p. 316 (1884); there are also two male specimens and one female from Yokohama, 1901. 13 (*Prior*).

The species is mentioned by Loew in a note after his description of *C. suavis*, from which it is easily distinguished by the entirely black face, a characteristic it shares with *C. sepulchralis*, Fabr., from which it differs in its larger size, the sides of the thorax black-haired, and the wholly black abdomen with only black pubescence. The wing resembles that of *C. suavis*, but in the female specimens the fifth posterior cell is wholly clear, and nearly so in the male, in which latter the basal colouring extends so far that it completely coalesces with the band, only a very small white spot being discernible at the base of the discal cell.

Length 9 millim.

Chrysops perspicillaris, ♂ ♀, Loew.

One male from Italy, 54. 76; two males from France; three females from France, 74. 86 (*Walker*); one female from Constantine, Algeria, c. x. 93 (*Eaton*); one female from Upper Jordan Valley above Bakeiret el Hûlch (Waters of Merom), 20. 7. 1901 (*Cropper*), with a note "only amongst papyrus." This species is said to be "not rare" near Turin.

There are no specimens of *C. punctifer*, Loew, in the British Museum Collection, but I identified several males and females from Syria as belonging to this species, which were sent me for identification by Dr. Kertesz. They are distinguished from *C. italicus*, Meig., by their smaller size, but are difficult to distinguish from *C. perspicillaris*, Loew, by the characteristics he gives.

Chrysops mauritanicus, ♀, Costa.

Two females from Fontaine Chaude, Batna, Algeria, 19 c. iv. 91 (*Eaton*).

These answer to the description and the figure of the wing given by Costa.

From unknown Locality.

Chrysops crudelis, ♀, Wiedem., Auss. zweifl. Ins. i. p. 195 (1828); Walker, List Dipt. pt. v. Suppl. 1, p. 293 (1854).

From the description of the type it might well be a specimen of *C. cæcutiens*, L., a common European species.

From a small collection of Pangoninae sent me by Dr. Kertész, of the Budapest Museum, for identification, three species of *Pangonia*, Latr., and two of *Scione*, Wlk., are apparently undescribed, all from S. America. The descriptions of these five new species and a table for the identification of the species of the genus of *Scione* are here appended.

Subgenus EREPHROSIS, Rondani.

**Erephrosis fuscus*, ♀, sp. n.

Two females from Espirito Santo, Brazil.

Dark brown. Antennæ reddish. Legs yellowish brown. Abdomen with some white tufts of hair on the sides of the second, fifth, and sixth segments.

Face reddish brown, with some greyish tomentum and black pubescence; forehead black, with brown tomentum and black pubescence. Antennæ dull testaceous, the first two joints with brown tomentum and black hairs. Palpi with the first joint black, the second reddish brown, with black pubescence on the sides and at the tip; the second joint longer than the first, curved, wide, tapering to a point. Beard snowy white and thick. Thorax brown, with indistinct stripes, short black pubescence, and greyish tomentum on the sides of the dorsum; between the base of the wings and the head is a fringe of black hairs, with white hairs below; on the posterior margin of the thorax above the wings is a sparse tuft of whitish hairs; breast yellowish brown, with white hairs; scutellum the same as the thorax, but redder, probably owing to being denuded. Abdomen in shape short,

oval, a little broader than the thorax at its widest part, dull brown, with obscure black markings, brown tomentum, and short black pubescence; viewed from the front the second segment has a band of dull grey tomentum on its posterior border; there is a tuft of white hairs on the sides of the second segment, extending on the dorsum a short distance as a fringe; there are also a few white hairs on the sides of the first segment and on the extreme margin of the third and fourth; on the fifth and sixth are distinct tufts of the white pubescence; there are a few white hairs in the centre of the fifth segment on its posterior border; the underside is reddish brown, with greyish tomentum, and the posterior borders of the segments are pale yellow; the pubescence consists of sparsely scattered silvery-white hairs. Legs yellowish brown, with black pubescence, which is long and spare on the femora, short and thick on the hind tibiae and tarsi; on the underside of the first joint of the fore tarsi is some fulvous pubescence. Wings clear, grey, the veins brown; no appendix; the first posterior cell is closed with a short petiole.

Length 1.4 millim.

This species is distinguished from *E. auripes*, Ricardo, by the narrower smaller abdomen, the dull grey band on the second segment, and the different colour of the legs.

Subgenus DIATOMINEURA, Rondani.

**Diatomineura seminigra*, ♀, sp. n.

Three females from Espirito Santo, Brazil.

Yellow-brown. Antennæ yellow. Legs yellow. Abdomen with irregular black obsolete bands. Thorax chestnut-brown.

Face reddish brown, with greyish-yellow tomentum and rather long black pubescence, the forehead with a darker central stripe. Antennæ reddish yellow, the first two joints with black hairs; the palpi are yellow, the second joint rather short, about the same length as the first, very broad, ending in a very short point, curved on the upper side and a little on the lower side, with some black pubescence on the margins and at the apex. Beard black, spare, with a few yellow hairs below. Thorax with black and greyish pubescence intermixed, the grey hairs predominating; there is some brown tomentum, forming two indistinct narrow stripes; the pubescence at the sides black anteriorly, chiefly grey posteriorly. Breast yellowish red, clothed with long grey and black hairs. Abdomen yellowish brown, shining, with irregular black

markings in the form of transverse bands on the posterior half of the first two segments, covering the others with the exception of a narrow band on the posterior borders, and becoming blacker and more intense towards the apex; the yellow-brown colour, however, predominates on the abdomen as a whole; the pubescence consists of short black hairs and a few whitish ones at the sides, especially on the second segment; the underside is yellowish brown, with the black markings appearing faintly; the pubescence is short and yellow. Legs yellow, with black pubescence and some fulvous, the latter chiefly on the underside of the tibiæ and the tarsi. Wings clear grey, veins brown; no appendix. There are traces of green colouring on the knees of the legs.

Length 11 millim.

**Diatomineura longipennis*, ♀, sp. n.

Two females from Espirito Santo, Brazil.

Reddish brown. Thorax with four white spots. Wings with shaded cross-veins. Antennæ blackish. Legs brown.

Face reddish brown, with grey tomentum and black pubescence, and long white hairs on the sides extending from the base of the antennæ to the palpi and covering the cheeks; some long black hairs are intermixed with the white ones on the upper part of the face; the palpi obscure reddish brown, the second joint the length of the first, broad, ending in a point, with the upper edge rounded, the first joint with long white pubescence, the second with short black on the edges. Antennæ black, the first two joints grey, with long black hairs, the first annulation of the third joint dull red. Fore-head brown, lighter at the sides; a broad band of grey extends across on the anterior margin; the pubescence is black. Beard whitish, as are also the hairs bordering the eyes. Thorax brown, lighter at the sides, with four greyish spots on the dorsum, the posterior pair contiguous, the anterior pair more widely separated; the sparse pubescence consists of black hairs, with a thick tuft of whitish hairs at the base of the wings and on the posterior margin of the thorax, and a few scattered white hairs among the black ones on the sides of the anterior part of the thorax; the breast clothed with black hairs, and a thick fringe of whitish hairs on the sides; the scutellum dark brown, with long black pubescence. Abdomen oval, hardly wider than the thorax, reddish brown, with an indistinct black central stripe, with irregular greyish bands on the posterior borders of the segments, widest and most noticeable on the second segment; towards the apex

darker in colour, the pubescence black, chiefly on the sides and on the posterior segments; there are some whitish hairs on the posterior border of the fifth segment and on the sides of the second, third, fourth, fifth, and sixth segments; the underside is yellowish brown, with irregular black bands and black pubescence. On the other female specimen there are also fringes of white hairs on the posterior borders of the segments. Legs reddish brown, the femora darker, the pubescence black, long on the femora, short and thick elsewhere. Wings grey, with brown veins, all the cross-veins shaded, those enclosing the basal cells most intense; no appendix.

Length 10 millim.

This small species is easily distinguished by the grey spots on the thorax, the thick tufts of white hairs at the sides, and the shaded wings, which are considerably longer than the abdomen.

SCIONE, Walker.

Scione, Walker, Dipt. Saund. pt. i. p. 11 (1850); Ricardo, Ann. & Mag. Nat. Hist. (7) v. pp. 98, 103 (1900).

Dielsia, Schiner, Reise der Novara (1866); id. Verh. zool.-bot. Gesell. Wien, xvii. p. 310 (1867).

For list of the described species of this genus see Ann. & Mag. Nat. Hist. (7) v. p. 104 (1900), to which must be added the two new species described by me in the same publication (vol. vi. p. 291, 1900) and the two described below, bringing the number up to *eleven*, all of which come from S. America, with the exception of *S. singularis*, Macq., from Australia, and *S. Alluaudi*, Giglio-Tos, from the Seychelles, neither of which seem typical of the genus, and will probably have to be removed. There is a great similarity in the colouring and pubescence of the abdomen of the different species, which must be chiefly distinguished by the wings. The description of the female of *incompleta* given by Macquart in his fourth supplement of Dipt. Exot. does not seem applicable to this species, as Schiner remarked.

- | | |
|---|----------------------------|
| 1. Eyes hairy | 2. |
| Eyes naked | 12. |
| 2. Wings smoky brown, with a clear band. | 3. |
| Wings with some or all the cross-veins shaded | 4. |
| Wings hyaline | 7. |
| 3. Abdomen yellowish brown, with black markings. Legs yellow..... | <i>fusca</i> , ♀, Ricardo. |
| 4. Wings with the vein from the discal cell complete | 5. |

- Wings with the vein from the discal cell incomplete..... 6.
5. Abdomen brown, with the posterior borders of the segments yellow. Legs yellowish *albifasciata*, ♀, Macq.
 Abdomen reddish yellow, with the apex and central stripe black. Legs brown. *maculipennis*, ♀, Schiner.
6. Abdomen reddish yellow, with black markings. Femora dark reddish yellow *incompleta*, ♂ ♀, Macq.
 Abdomen brown, the first two segments bright reddish yellow, with a black central stripe. Femora blackish *distincta*, ♀, Schiner.
7. Wings with the vein from the discal cell complete 8.
- Wings with the vein from the discal cell incomplete..... 11.
8. Thorax without the typical stripes of the genus 9.
 Thorax with the usual stripes 10.
9. Abdomen brownish yellow. Legs pale red..... *misera*, ♀, Ost. Sacken.
10. Abdomen brownish yellow. Legs blackish *claripennis*, ♀, Ricardo.
11. Abdomen yellowish brown, with a black central stripe. Legs blackish .. *fulva*, ♀, sp. n.
 Abdomen brown, the first two segments reddish yellow, with a black central stripe; the posterior segments fringed with yellowish hairs. Legs reddish.. *flavohirta*, ♂ ♀, sp. n.
12. Abdomen black and shining, with some white pubescence. Legs testaceous .. *singularis*, ♀, Macq.
 Abdomen, legs, and antennæ pale brown. *Albuandi*, ♂ ♀, Giglio-Tos.

The species represented in the British Museum Collection are the following :—

Scione incompleta, Macq.

Two females from Colombia.

Scione distincta, Schiner.

Three females from Mapiri, Bolivia (*Simons*), 1901.

Scione maculipennis, Schiner.

One female from Bogota.

Scione flavohirta, sp. n.

One female from Bolivia (*Cillutincara*).

Scione fulva, sp. n.

One female from Bolivia (*Songo*).

The types of the two new species are in the Budapest Museum.

Scione fulva, ♀, sp. n.

One female from Bolivia (Songo).

This and the following species are similar to *Scione incompleta*, Macq., and *Scione distincta*, Schiner, in having the vein from the discal cell incomplete, but they differ in the clear wings with no shading on the cross-veins.

Yellowish brown. Antennæ reddish. Legs blackish. Abdomen reddish yellow, with a black dorsal stripe and white-haired spots. Wings hyaline, the vein from the discal cell not reaching the border.

Face brown, with greyish tomentum and black pubescence; the forehead is similar, the grey tomentum only leaves a central and lateral stripes of the ground-colour clear, and the space above the antennæ. Palpi brown, the second joint shorter than the first, conical in shape, both joints with black pubescence, the first with long white hairs at its base. Antennæ bright red, the first joint grey, the second pale red, both with black pubescence, the third black at the apex. Beard whitish. Thorax brown, with the typical five greyish stripes and some black pubescence; sides with black hairs and white tufts of hair at base of wing and on posterior border of thorax; breast brown, with grey tomentum and white and black pubescence. Scutellum brown, with greyish tomentum. Abdomen yellowish red, the first segment black on its anterior half, the second with a black spot in the centre and traces of an obsolete black band on its posterior border, third and fourth segments with a black central spot and irregular black markings; the last three segments brown, with black anterior borders; there is a whitish tuft of hairs on the centre of the posterior border of the second, third, fourth, and fifth segments; on this last it extends as a fringe towards the sides; there is some very short yellow pubescence on the posterior border of the second segment; the rest of the pubescence on the dorsum is black; on the sides of the second, fourth, fifth, and sixth segments are white hairs, on the remaining ones it is black; the underside is yellow, with a few irregular black markings and whitish pubescence. Legs black, the apex of the femora, the tibiæ, and the tarsi reddish yellow, with long black pubescence on the underside of the femora, short and thick elsewhere. Wings clear, grey, with yellowish-brown veins, and faintly tinged with yellow on the fore border, extending to the

fourth longitudinal vein; the first posterior cell is closed rather near the border; the incomplete vein from the discal cell is distant about a third of its actual length from the border; no appendix. The wings are considerably longer than the abdomen.

Length 10 millim.

One of the specimens differs from the type in having the thorax clothed with black and fulvous pubescence, and the typical stripes are hardly to be traced; the legs are almost entirely reddish yellow and there are some white hairs on the femora; the incomplete vein almost reaches the border in one specimen and varies in all in the distance from the border.

Scione flavohirta, ♂ ♀, sp. n.

One female from Bolivia (Cillutincara).

Brown. Antennæ red and black. Legs yellowish. Abdomen with the first two segments reddish, and yellowish pubescence on the borders of the posterior segments. A hairy species.

Type (male). Face pale reddish brown, with long black pubescence; the palpi brown, the second joint bright red, with long white hairs on the basal half of the first joint and long black pubescence on its apical half and on the second joint, both joints about equal in length. Antennæ with the first two joints brown, with long black hairs, the third bright red, black at its apex. Beard whitish. The pubescence on the eyes long and dark. Thorax dark brown, with five narrow stripes of fulvous tomentum; the pubescence consists of long black hairs and shorter fulvous hairs; on the sides it is black between the base of the wings and the head, with yellowish tufts of hair at the base of the wing and on the posterior border of the thorax. Breast with long white and black pubescence. Scutellum brown, with long black hairs. Abdomen black-brown, the posterior border of the first segment reddish yellow, the second almost entirely so, with a square black central spot; the third has only a trace of the reddish-yellow colour at the sides; the others are entirely black-brown, with their extreme lateral margins yellow, transparent, and their posterior borders yellowish; the pubescence consists of long black hairs on the dark colour of the posterior segments, fulvous hairs on the second and third segments, becoming thickest on the posterior borders, and some black hairs on the central black stripe; the posterior borders of the remaining segments are fringed with short

yellowish hairs ; in the centre of all the segments, except the first, sixth, and seventh, the hairs are thicker and whiter, extending halfway up the width of the segment ; on the sides the pubescence is mostly yellow on the first, yellow and black on the second, third, and fourth, yellow on the fifth and sixth, and black on the seventh ; underside yellow, with irregular black markings and whitish pubescence. Legs reddish yellow, the coxæ with long white hairs, long black hairs on the underside of the femora, and short black pubescence elsewhere. Wings hyaline, grey, with brown veins ; no appendix ; the incomplete vein is distant about a third of its actual length from the border, the first posterior cell closed rather near the border.

Length 11 millim.

The female type is similar ; the forehead is reddish brown, with darker frontal stripe and black pubescence ; the second joint of the palpi is as long as the first, curved, tapering to a point, and yellower in colour ; the yellow fringes on the abdomen do not extend beyond the fifth segment.

LXVII.—*The Lycaon and Pedetes of British East Africa, and a new Gerbille from N. Nyasa.* By OLDFIELD THOMAS.

I.—LYCAON.

THE British Museum received many years ago from Capt. (now Gen. Sir Frederick) Lugard examples of the East-African *Lycaon*, and later on from Mr. F. J. Jackson an imperfect skin of the same form ; but it is only now that, thanks to further material from other regions and to the receipt from Mr. C. S. Betton of three perfect skins from East Africa, that I am able to venture on a determination of this animal.

Owing to their peculiar irregular coloration specimens of *Lycaon* are particularly difficult to compare effectively with one another, and still more to describe in a recognizable manner. As is well known, no two individuals, even if from the same pack, are precisely identical, and it is only by the general average coloration that one is able to distinguish the local races at all.

However, it appears that while (1) the Cape form (*L. pictus venaticus*, Burch.) is more yellow than black, with yellow-mixed backs to the ears, with a good deal of yellow on the